

SYSTEMATIC POSITION OF THE NEW GUINEA FROG
HYLELLA WOLTERSTORFFI WERNER

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Fig. 1

SUMMARY

Examination of the holotype of *Hylella wolterstorffi* Werner has revealed firmisternal characteristics. The species is therefore transferred from the arciferal Hylidae to the Microhylid genus *Oreophryne*. The holotype is redescribed and figured, and its relationships to other species discussed.

INTRODUCTION

Hylella wolterstorffi Werner (1901) is based on a single specimen collected in New Guinea by Tappebeck. The exact type locality is unknown, for the data labels accompanying the collection in which the specimen was included were either detached or illegible (Werner, 1901, p. 602).

After several authors had expressed the opinion that *Hylella* Reinhardt and Lutken was a polyphyletic assemblage, *wolterstorffi* and the other New Guinea members of the genus were referred to *Hyla* by Barbour (1912). Van Kampen (1919) suggested that *wolterstorffi* might be based on a juvenile *Hyla arfakiana* Peters and Doria, but when revising the Indo-Australian members of the genus (1923) continued to regard the former a valid species.

Through the kindness of Dr. Gunther Peters of the Institut für Spezielle Zoologie und Zoologisches Museum, Berlin, the author had the opportunity of examining the holotype. As the shoulder girdle was found to be firmisternal, the presence of *wolterstorffi* in a Hylid genus cannot be maintained. The species has therefore been redescribed and figured, and its systematic position revised.

DESCRIPTION OF THE HOLOTYPE

The presence of a firmisternal girdle with reduced development of the clavicles, the absence of vomerine teeth and maxillary teeth, and the presence of T-shaped terminal phalanges indicate that *wolterstorffi* is very closely allied to the Microhylid species *Oreophryne* (*Hylella*) *brachypus* (Werner), and should also be referred to *Oreophryne*.

Oreophryne wolterstorffi (Werner)

Holotype: Z.M. 16853. One adult specimen collected in New Guinea by Tappebeck.

There are neither maxillary nor vomerine teeth. The tongue is oval, entire and half free behind, and there is a single, denticulate pre-pharyngeal ridge. The eye is prominent, its diameter greater than the distance separating it from the naris; the snout is truncate. The tympanum is indistinct, with a horizontal diameter which is slightly more than one-third of the eye diameter.

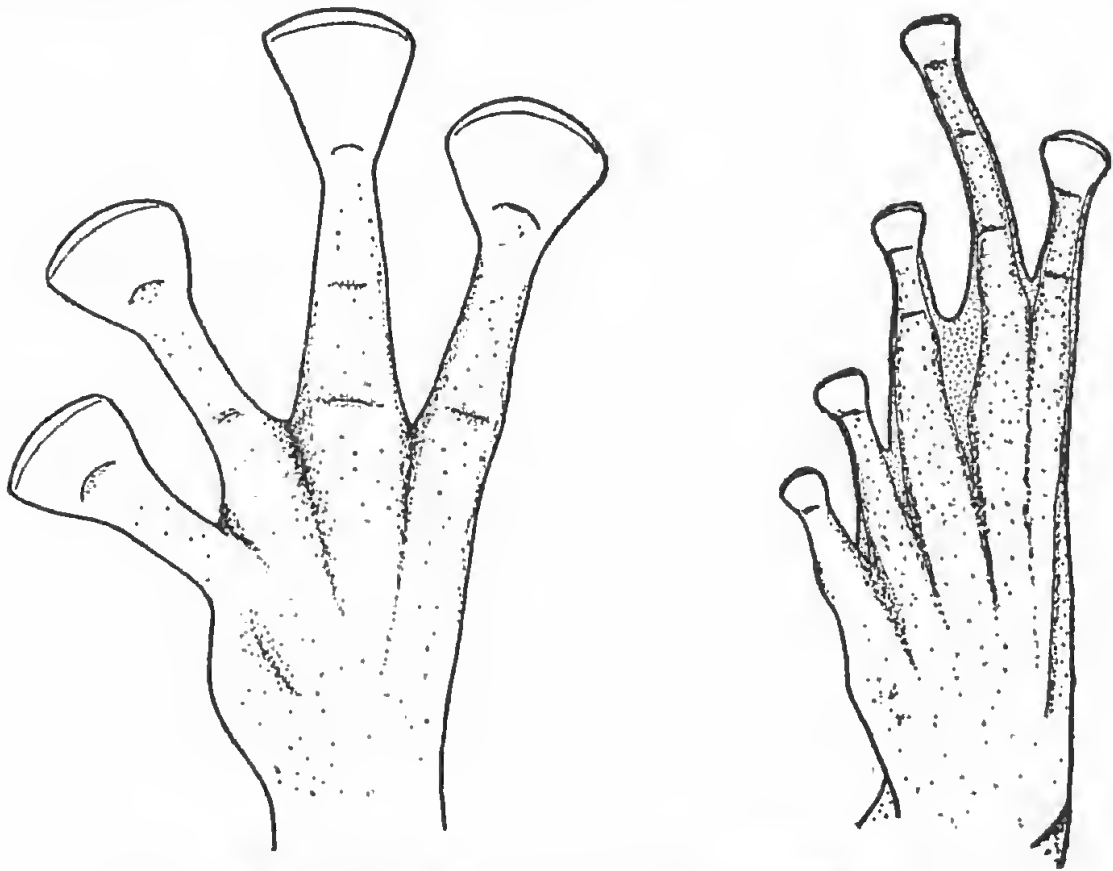


Fig. 1. Lower surface of hand and foot of *Oreophryne wolterstorffi*.

The shoulder girdle was found to be partially dissected, and only those portions of the procoracoids separating the clavicles from the coracoids are now present. The clavicles are in such close proximity to the coracoids that it is considered unlikely that the procoracoids could have extended as far as the scapulac. The posterior margin of each clavicle is obtusely angled, and the anterior margin evenly rounded. The clavicle may also be divided into two portions; the proximal portion subtends to the coracoid at an angle of approximately 40° , and the distal half lies parallel to the coracoid.

The hand is unwebbed, and the fingers bear large, truncated discs (fig. 1). There is a short basal web on the foot, and very narrow fringes to the toes. The toe discs are very much smaller than the finger discs (fig. 1). The terminal phalanges are T-shaped.

Werner described the colouration of the specimen as follows: "Whitish brown above, with grey blotches. A dark brown stripe stretches from the posterior edge of the eye above the tympanum towards the back; this stripe does not extend over the head. Anterior part of head to middle of eyes light-coloured, posterior part of head dark brown (both of these colours being distinct and clearly divided). Limbs indistinctly flecked with brown. Belly and thighs marbled with white and light brown."

The holotype is now a very pale brown, and few of the markings reported by Werner can be distinguished.

Dimensions: Snout to vent length 22.5 mm.; tibia length 9.7 mm.; head breadth 7.4 mm.; head length 7.1 mm.; eye diameter 3.1 mm.; eye to naris distance 1.8 mm.; internarial span 1.6 mm.; tympanum diameter 0.8 mm.

RELATIONSHIPS

It is possible to divide *Oreophryne* into two groups according to the extent of the development of the procoracoids (Parker, 1934). In one group the procoracoids extend to the scapulae, and in the other the distal half or one-third is replaced by a slender ligament. In view of the large number of species currently comprising the genus, this separation is a convenient taxonomic characteristic. It is therefore extremely unfortunate to find that the procoracoids of *wolterstorffi* have been destroyed.

The presence of webbing between the toes is shared by relatively few species. *Oreophryne kampeni* Parker has one-third webbed toes, but differs from *wolterstorffi* in having the third toe shorter than the fifth. *Oreophryne crucifera* (Van Kampen) and *O. albopunctata* (Van Kampen) have similar webbing, but the third and fifth toes are of equal length. The tympanum of *O. anthonyi* (Boulenger) is half the diameter of the eye (approximately one-quarter in *wolterstorffi*), whilst *O. biroi* (Méhely) has very much larger finger discs.

Oreophryne brevicrus Zweifel may be distinguished from *wolterstorffi* by smaller finger discs and a slightly protruding snout. *Oreophryne idenburgensis* Zweifel has a much larger tympanum but

exhibits many characteristics common to *wolterstorffi*, as does *O. brachypus* (Werner) which is distinguished by more extensive toe webbing.

DISCUSSION

The evidence supporting the recognition of many *Oreophryne* species frequently consists of differences in the diameter of finger and toe discs, and similar minor features. Although it is sometimes possible to demonstrate the statistical significances of such differences in freshly preserved material, it is extremely difficult to make accurate comparisons when the specimens are old and dehydrated.

Although a revision of the genus may reveal that *wolterstorffi* is synonymous with one of the many species currently recognized, it is clearly distinct from those which take priority by date of publication, and should therefore remain a valid name.

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